Supplemental Material

Relationships between Indicators of Cardiovascular Disease and Intensity of Oil and Natural Gas Activity in Northeastern Colorado.

Lisa M. McKenzie James Crooks Jennifer L. Peel Benjamin D. Blair, Stephen Brindley William B. Allshouse Stephanie Malin John L. Adgate

Table S1. Augmentation index mean and differences for each tertile of intensity adjusted inverse distance weighted oil and gas well count (IA-IDW) within 16.1 kilometers of residence of each participant in 2016. Differences between means compared to low IA-IDW tertile and augmentation index not corrected for heart rate.

	Mean			Difference between means			
	(95% Confidence Interval)			(95% Confidence Interval)			
	Low ¹	Medium ¹	High ²	Low ¹ Medium ¹ High ¹			
Model	N = 92	N = 81	N = 81				
Crude	86.2	87.0	90.8	Referent	0.845 (-3.40, 5.09)	4.56	
						(0.283, 8.83)	
Adjusted ²	86.6	86.2	89.2		-0.438	2.5	
					(-4.63, 3.75)	(-1.76, 6.83)	

¹Tertile of IA-IDW = intensity adjusted inverse distance weighted count of oil and gas wells within 16.1 kilometers of residence: Low = 0 − 14.5 well intensity/kilometer², Medium 14.6 − 1242 well intensity/kilometer², High > 1242 well intensity/kilometer².

²Adjusted for age, sex, race/ethnicity, BMI, education, income, and employment.

N = number

Table S2. Sensitivity analysis exclusion of 33 results for participants reporting illness 24-hours prior to collection of CVD biomarkers. Biomarker means and differences for each tertile of intensity adjusted inverse distance weighted oil and gas well count (IA-IDW) within 16.1 kilometers of residence of each participant in 2016. Differences between means compared to low IA-IDW tertile for each measure of cardiovascular health, i.e, augmentation index, systolic blood pressure, diastolic blood pressure as well as biomarkers of inflammation.

		Mean			Difference between means			
Biomarker N = 80 N = 70 N = 71 N = 70 N = 71 N = 70 N = 71 N = 71 N = 70 N = 70 N = 70 N = 70 N = 71 N = 70 N = 71 A = 71 A = 71 A = 71 A = 72 N = 72 <th col<="" td=""><td></td><td>(95%</td><td>Confidence Inte</td><td>rval)</td><td colspan="3">(95% Confidence Interval)</td></th>	<td></td> <td>(95%</td> <td>Confidence Inte</td> <td>rval)</td> <td colspan="3">(95% Confidence Interval)</td>		(95%	Confidence Inte	rval)	(95% Confidence Interval)		
Augmentation Index (percent at HR 75) Crude 4.7 16.5 14.3 (0.3, 9.0) (12.2, 20.9) (9.9, 18.8) (5.6, 18.1) (5.2, 16.8) (11.1, 21.3) (11.8, 22.3) (11.8, 22.3) (5.2, 16.8) (11.1, 21.3) (11.8, 22.3) (11.8, 22.3) (1.0, 10.6) (0.6, 11.6) (0.6, 11.6)		Low ¹	Medium ¹	High ²	Low ¹	Medium ¹	High ¹	
Crude	Biomarker	N = 80	N = 70	N = 71				
Adjusted			t at HR 75)					
Adjusted 11.0 16.2 17.1 (11.8 , 22.3) 17.1 (0.6, 11.6)	Crude	4.7	16.5	14.3	Referent	11.9	9.6	
Systolic Blood Pressure (mm Hg) (1.1., 21.3) (1.1., 21.3) (1.1., 20.3) (1.1., 10.6) (0.6, 11.6) (0.6, 11.6) (0.6, 11.6) (0.6, 11.6) (0.6, 11.6) (0.6, 11.6) (0.6, 11.6) (0.6, 11.6) (0.6, 11.6) (0.6, 11.6) (0.6, 11.6) (0.6, 11.6) (0.6, 11.6) (1.1., 12.6) (1.1., 10.0) (1.1., 10.0) (1.1., 10.0) (1.1., 10.0) (1.1., 10.0) (1.1., 10.0) (1.1., 10.0) (1.1., 10.0) (1.1., 10.0) (1.2., 10.0) <th< td=""><td></td><td>(0.3, 9.0)</td><td>(12.2, 20.9)</td><td>(9.9, 18.8)</td><td></td><td>(5.6, 18.1)</td><td>(3.3, 15.9)</td></th<>		(0.3, 9.0)	(12.2, 20.9)	(9.9, 18.8)		(5.6, 18.1)	(3.3, 15.9)	
Systolic Blood Pressure (mm Hg)	Adjusted ²	_						
Crude		, ,		(11.8, 22.3)		(-0.1, 10.6)	(0.6, 11.6)	
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Diastolic B Crude 73 72 76 Referent -1 3 (0,7) (69,75) (73,79) (-4,3) (-4,3) (0,7) (-1,7)						(-5, 6)		
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Interleukin-1β (pg/ml)	Adjusted ²		I			_	_	
Crude 0.556 (0.506, 0.611) 0.562 (0.509, 0.621) 0.638 (0.578, 0.705) Referent (-0.067, 0.089) 0.082 (-0.001, 0.177) Adjusted¹ 0.550 (0.466, 0.647) 0.566 (0.488, 0.658) 0.628 (0.537, 0.733) 0.017 (-0.065, 0.113) 0.079 (-0.014, 0.187) Interleukin-6 (pg/ml) 0.794 (0.681, 0.925) 0.845 (0.723, 0.989) 0.904 (0.771, 1.06) Referent (-0.117, 0.260) 0.014 (-0.117, 0.260) 0.114 (-0.17, 0.260) Adjusted¹ 0.889 (0.713, 1.11) 0.652, 0.971) (0.700, 1.05) Referent (-0.244, 0.088) (-0.0949 (-0.244, 0.088) (-0.193, 0.170) Interleukin-8 (pg/ml) 4.92 5.52 (4.50, 5.81) Referent (4.83, 6.31) -0.196 (-1.024, 0.812) 0.417 (-0.535, 1.551) Adjusted¹ 5.90 4.80 5.81 (4.72, 7.14) -1.105 (-2.012, 0.014) -0.094 (-1.124, 1.292) Tumor Necrosis Factor (pg/ml) 5.07 (4.01, 5.16) 5.27 (4.63, 6.01) Referent (-0.333, 1.531) 0.520 (-0.333, 1.531) 0.6165, 1.789) Adjusted¹ 4.71 4.84 5.16 0.132 0.454			(69, 76)	(72, 79)		(-4, 3)	(-1, 7)	
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Majusted			0.045	0.004	Deferent	0.051	0.114	
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Adjusted ¹ 4.71 4.84 5.16 0.132 0.454								
	Adjusted ¹							
		(3.80, 5.83)	(4.00, 5.86)	(4.24, 6.28)		(-0.747, 1.206)	(-0.505, 1.629)	

¹Tertile of IA-IDW = intensity adjusted inverse distance weighted count of oil and gas wells within 16.1 kilometers of residence: Low = 0 − 14.5 well intensity/kilometer², Medium 14.6 − 1242 well intensity/kilometer², High > 1242 well intensity/kilometer².

²Adjusted for age, sex, race/ethnicity, BMI, education, income, and employment.

Table S3. Sensitivity analysis exclusion of 19 results for participants who drank alcohol within 10-days prior to collection of biomarkers (N=?). Biomarker means and differences for each tertile of intensity adjusted inverse distance weighted oil and gas well count (IA-IDW) within 16.1 kilometers of residence of each participant in 2016. Differences between means compared to low IA-IDW tertile for each measure of cardiovascular health, i.e, augmentation index, systolic blood pressure, diastolic blood pressure as well as biomarkers of inflammation..

		Mean		Di	fference betweer	n means
	(959	% Confidence Inter	val)	(9	95% Confidence Ir	nterval)
	Low ¹	Medium ¹	High ²	Low ¹	Medium ¹	High ¹
Biomarker	N = 83	N = 76	N = 76			
Augmentation	on Index (percen	t at HR 75)				
Crude	4.6	16.6	15.0	Referent	12.0	10.4
	(0.2, 8.9)	(12.2, 21.0)	(10.6, 19.4)		(5.8, 18.3)	(4.1, 16.7)
Adjusted ²	11.0	15.8 (10.7,20.9)	17.6		4.9	6.6
	(5.4, 16.5)		(12.5, 22.6)		(-0.4, 10.1)	(1.3, 11.9)
Systolic Bloo	d Pressure (mm					
Crude	119	120	123	Referent	1	4
	(115, 123)	(116,124)	(119, 127)		(-5, 7) -2	(-2 , 10)
Adjusted ²	118	116	120			2
	(112, 123)	(111, 121)	(115, 125)		(-7, 4)	(-3, 7)
Diastolic Blo	od Pressure (mm					
Crude	73	72	77	Referent	-1	4
	(70, 76)	(70, 75)	(74, 79)		(-4, 3) -1	(0, 7)
Adjusted ²	74	73	76		_	2
	(71, 78)	(69, 77)	(73, 80)		(-5, 2)	(-2, 6)
Interleukin-	, ,					1
Crude	0.545	0.561	0.624	Referent	0.017	0.078
	(0.495, 0.598)	(0.509, 0.618)	(0.565, 0.687)		(-0.056, 0.098)	(-0.003, 0.170)
Adjusted ¹	0.537	0.553	0.605		0.018	0.068
	(0.456, 0.632)	(0.475, 0.646)	(0.521, 0.701)		(-0.062, 0.110	(-0.019, 0.171)
Interleukin-6			T			T
Crude	0.820	0.873	0.927	Referent	0.053	0.109
	(0.698, 0.964)	(0.740, 1.03)	(0.785, 1.10)		(-0.130, 0.284)	(-0.088, 0.355)
Adjusted ¹	0.973	0.824	0.906		-0.117	-0.052
	(0.780, 1.21)	(0.668, 1.02)	(0.740, 1.109)		(-0.239, 0.032)	(-0.187, 0.112)
Interleukin-8						
Crude	4.97	4.97	5.36	Referent	0	0.404
	(4.35, 5.66)	(4.35, 5.68)	(4.68, 6.14)		(-0.854, 1.046)	(-0.540, 1.535)
Adjusted ¹	5.57	4.67	5.50		-0.905	-0.076
	(4.47, 6.95)	(3.81, 5.71)	(4.50, 6.71)		(-1.770, 0.169)	(-1.126)
	osis Factor (pg/m		Т			Г
Crude	4.57	5.22	5.16	Referent	0.653	0.593
	(4.02, 5.20)	(4.58, 5.94)	(4.53, 5.90)		(-0.236, 1.724)	(-0.285, 1.648)
Adjusted ¹	4.72	4.92	5.01		0.200	0.291
	(3.80, 5.86)	(4.04, 6.00)	(4.12, 6.10)		(-0.639, 1.305)	(-0.648, 1.445)

¹Tertile of IA-IDW = intensity adjusted inverse distance weighted count of oil and gas wells within 16.1 kilometers of residence: Low = 0 – 14.5 well intensity/kilometer², Medium 14.6 – 1242 well intensity/kilometer², High > 1242 well intensity/kilometer².

²Adjusted for age, sex, race/ethnicity, BMI, education, income, and employment.

Table S4. Sensitivity analysis exclusion of results for 4 participants who relocated home residence within 3-months prior to collection of biomarkers. Biomarker means and differences for each tertile of intensity adjusted inverse distance weighted oil and gas well count (IA-IDW) within 16.1 kilometers of residence of each participant in 2016. Differences between means compared to low IA-IDW tertile for each measure of cardiovascular health, i.e, augmentation index, systolic blood pressure, diastolic blood pressure as well as biomarkers of inflammation.

		Mean		Di	ifference betweer	n means
	(95%	Confidence Inte	rval)	(9	95% Confidence I	nterval)
	Low ¹	Medium ¹	High ²	Low ¹	Medium ¹	High ¹
Biomarker	N = 88	N = 81	N = 81			
Augmentation	on Index (percen	t at HR 75)				
Crude	4.9	17.6	14.7	Referent	12.7	9.8
	(0.7, 9.2)	(13.4, 21.9)	(10.4, 18.9)		(6.6, 18.8)	(3.7, 15.9)
Adjusted ²	10.3	16.6	16.8		6.2	6.5
	(4.7, 16.0)	(11.5, 21.6)	(11.7, 21.8)		(0.9, 11.6)	(1.1, 11.8)
Systolic Bloc	od Pressure (mm	Hg)				
Crude	119	120	123	Referent	2	5
	(115, 122)	(116, 124)	(119, 127)		(-4, 8)	(-1,10)
Adjusted ²	117	117	120		0	3
	(111, 122)	(112,122)	(115, 125)		(-5, 5)	(-2, 8)
	od Pressure (mm		Г		Т	Т
Crude	73	73	77	Referent	0	4
2	(70, 76)	(70, 75)	(74, 79)		(-4, 4)	(0, 7)
Adjusted ²	74	73	76		-1	2
	(70, 78)	(70, 77)	(73, 80)		(-4, 3)	(-1, 6)
Interleukin-	· · · - · · · · · · · · · · · · · · · ·			T	T	T
Crude	0.551	0.564	0.624	Referent	0.013	0.073
	(0.504, 0.604)	(0.513, 0.618)	(0.569, 0.685)		(-0.058, 0.092)	(-0.004, 0.162)
Adjusted ¹	0.542	0.558	0.608		0.016	0.066
	(0.462, 0.635)	(0.483, 0.646)	(0.527, 0.701)		(-0.061, 0.017)	(-0.020, 0.164)
Interleukin-6				Т		
Crude	0.813	0.893	0.935	Referent	0.083	0.123
	(0.695, 0.948)	(0.762, 1.05)	(0.796, 1.10)		(-0.098, 0.309)	(-0.066, 0.362)
Adjusted ¹	0.966	0.838	0.904		-0.129	-0.062
	(0.780, 1.20)	(0.689, 1.02)	(0.745, 1.10)		(-0.282, 0.062)	(-0.230, 0.141)
Interleukin-8	,, e, ,		1	I	1	1
Crude	5.02	5.08	5.41	Referent	0.0582	0.384
	(4.44, 5.70)	(4.47, 5.77)	(4.76, 6.15)		(-0.787, 1.058)	(-0.515, 1.463)
Adjusted ¹	5.52	4.76	5.52		-0.745	0.0123
	(4.45, 6.84)	(3.93, 5.79)	(4.55, 6.71)		(-1.630, 0.327)	(-1.023, 1.271)
	osis Factor (pg/m			T		
Crude	4.56	5.18	5.21	Referent	0.616	0.652
	(4.02, 5.16)	(4.56, 5.87)	(4.59, 5.92)		(-0.235, 1.634)	(-0.205, 1.677)
Adjusted ¹	4.68	4.82	5.02		0.131	0.335
	(3.79, 5.77)	(3.99, 5.81)	(4.16, 6.05)		(-0.732, 1.184)	(-0.566, 1.446)

¹Tertile of IA-IDW = intensity adjusted inverse distance weighted count of oil and gas wells within 16.1 kilometers of residence: Low = 0 − 14.5 well intensity/kilometer², Medium 14.6 − 1242 well intensity/kilometer², High > 1242 well intensity/kilometer².

²Adjusted for age, sex, race/ethnicity, BMI, education, income, and employment.

Table S5. Sensitivity analysis exclusion of 4 outliers¹: means and differences between means for each tertile of intensity adjusted inverse distance weighted oil and gas well count (IA-IDW) within 16.1 kilometers of residence of each participant in 2016. Differences between means compared to low IA-IDW tertile for each measure of cardiovascular health, i.e, augmentation index, systolic blood pressure, diastolic blood pressure as well as biomarkers of inflammation.

	Mean			Difference between means			
	(95%	Confidence Inte	rval)	(95% Confidence Interval)			
	Low ²	Medium ²	High ²	Low ²	Medium ²	High ²	
Biomarker	N = 89	N = 81	N = 80				
Augmentation	on Index (percen	t at HR 75)					
Crude	5.1	16.8	14.7	Referent	11.7	9.6	
	(0.9, 9.4)	(12.6, 21.0)	(10.4, 19.0)		(5.6, 17.7)	(3.5, 15.7)	
Adjusted ³	10.9	15.9	16.8		5.1	6.0	
	(5.3,16.4)	(11.0, 20.9)	(11.8, 21.9)		(-0.1,10.3)	(0.6,11.3)	
Systolic Bloc	d Pressure (mm	Hg)					
Crude	119	119	123	Referent	0	4	
	(115, 122)	(115, 122)	(119, 126)		(-5, 5)	(-1, 9)	
Adjusted ³	118	116	120		-1	2	
	(112, 123)	(112,121)	(115, 125)		(-6, 4)	(-3, 7)	
Diastolic Blo	od Pressure (mm						
Crude	73	73	76	Referent	0	4	
	(70, 75)	(71,76)	(74, 79)		(-3, 4) 0	(0,7)	
Adjusted ³	74	73	76		•	_	
	(70, 78)	(70, 77)	(73, 79)		(-4, 3)	(-1, 6)	
Interleukin-	, 1, 0, ,						
Crude	0.538	0.564	0.622	Referent	0.025	0.083	
	(0.495, 0.585)	(0.518, 0.614)	(0.570, 0.678)		(-0.038, 0.097)	(0.012, 0.163)	
Adjusted ³	0.522	0.556	0.601		0.034	0.079	
	(0.454, 0.603)	(0.489, 0.632)	(0.530, 0.684)		(-0.036, 0.113)	(0.002, 0.166)	
Interleukin-6				_	_		
Crude	0.759	0.834	0.853	Referent	0.077	0.095	
	(0.670, 0.857)	(0.736, 0.944)	(0.753, 0.968)		(-0.059, 0.237)	(-0.044. 0.262)	
Adjusted ³	0.823	0.805	0.818		-0.024	-0.011	
	(0.689, 1.00)	(0.681, 0.953)	(0.692, 0.968)		(-0.154, 0.132)	(-0.146. 0.149)	
Interleukin-8							
Crude	4.94	5.04	5.36	Referent	0.092	0.415	
	(4.37, 5.58)	(4.45, 5.70)	(4.73, 6.07)		(-0.716, 1.069)	(-0.456, 1.454)	
Adjusted ³	5.37	4.72	5.43		-0.650	0.062	
T NI	(4.36, 6.64)	(3.91, 5.71)	(4.49, 6.58)		(-1.498, 0.384)	(-0.934. 1/267)	
	osis Factor (pg/m		F 4 4	D-f- :	0.430	0.240	
Crude	5.00	5.13	5.14	Referent	0.128	0.248	
A -1:+ - 12	(4.54, 5.51)	(4.67, 5.64)	(4.67, 5.66)		(-0.523, 0.888)	(-0.523, 0.902)	
Adjusted ³	4.89	4.71	4.91		-0.177	0.023	
1	(4.20, 5.68)	(4.11, 5.40)	(4.29, 5.62)		(-0.794, 0.533)	(-0.631, 0.776)	

¹More than 1.5 times the IQR below and above the lower and upper bounds of the IQR, respectively

 $^{^2}$ Tertile of IA-IDW = intensity adjusted inverse distance weighted count of oil and gas wells within 16.1 kilometers of residence: Low = 0 – 14.5 well intensity/kilometer 2 , Medium 14.6 – 1242 well intensity/kilometer 2 , High > 1242 well intensity/kilometer 2 .

³Adjusted for age, sex, race/ethnicity, BMI, education, income, and employment.

Table S6. Participants residing in Greeley or Windsor: Means for each tertile of intensity adjusted inverse distance weighted oil and gas well count (IA-IDW) within 16.1 kilometers of residence of each participant in 2016. Differences between means compared to medium IA-IDW tertile for each measure of cardiovascular health, i.e, augmentation index, systolic blood pressure, diastolic blood pressure as well as biomarkers of inflammation.

	Me	ean	Difference	between means	
	(95% Confide	ence Interval)	(95% Confidence Interval)		
	Medium ¹	High ¹	Medium ¹	High ¹	
Biomarker	N = 89	N = 37			
Augmentation	on Index (percen	t at HR 75)			
Crude	17.6	14.7	Referent	-2.9	
	(12.3, 22.4)	(11.0, 18.4)		(-9.1, 3.4)	
Adjusted ²	17.1	17.2		0.029	
	(10.8, 23.4)	(11.2. 23.1)		(-5.8, 5.9)	
Systolic Bloc	od Pressure (mm	Hg)			
Crude	120	123	Referent	3.6	
	(114, 125)	(119. 128)		(-3.8, 11)	
Adjusted ²	116	121		4.9	
	(109, 122)	(114. 127)		(-1.2, 11)	
Diastolic Blo	od Pressure (mm				
Crude	72	77	Referent	4.2	
	(69, 76)	(74, 79)		(-0.4, 8.9)	
Adjusted ²	74	78		4.1	
	(69, 78)	(74, 82)		(-0.2, 8.4	
Interleukin-	lβ (pg/ml)				
Crude	0.569	0.625	Referent	0.056	
	(0.499, 0.649)	(0.565, 0.692)		-0.040, 0.172)	
Adjusted ¹	0.540	0.582		0.044	
	(0.443, 0.656)	(0.484, 0.700)		(-0.052, 0.160)	
Interleukin-6	6 (pg/ml)				
Crude	0.811	0.931	Referent	0.118	
	(0.661, 0.995)	(0.796, 1.089)		(-0.098, 0.402)	
Adjusted ¹	0.811	0.910		0.099	
	(0.627, 1.052)	(0.716, 1.156)		(-0.093, 0.340)	
Interleukin-8					
Crude	4.932	5.408	Referent	0.488	
	(4.111, 5.902	(4.710, 6.223)		(-0.646, 1.907)	
Adjusted ¹	4.508	5.679		1.180	
	(3.475, 5.848)	(4.457, 7.261)		(-0.041, 2.736)	
Tumor Necro	osis Factor (pg/m				
Crude	4.875	5.176	Referent	0.301	
	(4.236, 5.623)	(4.645, 5.768)		(-0.560, 1.333)	
Adjusted ¹	4.305	4.831		0.525	
	(3.524, 5.260)	(4.009, 5.821)		(-0.297, 1.502	

¹Tertile of IA-IDW = intensity adjusted inverse distance weighted count of oil and gas wells within 16.1 kilometers of residence: Low = 0 - 14.5 well intensity/kilometer², Medium 14.6 - 1242 well intensity/kilometer², High > 1242 well intensity/kilometer².

²Adjusted for age, sex, race/ethnicity, BMI, education, income, and employment.

Table S7. Biomarker means and differences for each tertile of intensity adjusted inverse distance weighted oil and gas well count (IA-IDW) within 16.1 kilometers of residence of each participant in 2016 stratified by sex. Differences between means compared to low IA-IDW tertile for each measure of cardiovascular health, i.e., augmentation index, systolic blood pressure, diastolic blood pressure.

	Mean			Difference between means			
	(95%	Confidence In	iterval)	(95%	Confidence I	nterval)	
Biomarker	Low ¹	Medium ¹	High ¹	Low ¹	Medium ¹ High ¹		
(N)	N = 92	N = 81	N = 81	N =92	N = 81	N = 81	
Augmentati	ion Index (pe	rcent at HR 75	5) ²				
Women	11.4	15.7	16.6	Referent	4.2	5.1	
	(5.6, 17.3)	(10.0, 21.9)	(11.3, 21.9)		(-1.8, 10.3)	(-0.95, 11.2)	
Men	0.36	8.0	9.4		7.7	9.1	
	(-7.1, 7.8)	(1.2, 14.9)	(1.0, 18.0)		(-1.6, 17.0)	(-1.1, 19.3)	
Systolic Blo	od Pressure ((mm Hg) ²					
Women	118	115	120	Referent	-3	2	
	(112, 123)	(109, 120)	(115, 125)		(-9, 3)	(-4, 8)	
Men	121	125	126		5	5	
	(113, 128)	(119, 132)	(117, 134)		(-4, 13)	(-5, 15)	
Diastolic Blo	ood Pressure	(mm Hg) ²					
Women	74	72	76	Referent	-2	2	
	(70, 78)	(68, 76)	(73, 80)		(-6, 2)	(-2, 7)	
Men	74	77	77		3	3	
	(69, 79)	(73, 82)	(71, 83)		(-3, 9)	(-4, 10)	

 $^{^{1}}$ Tertile of IA-IDW = intensity adjusted inverse distance weighted count of oil and gas wells within 16.1 kilometers of residence: Low = 0 – 14.5 well intensity/kilometer², Medium 14.6 – 1242 well intensity/kilometer², High > 1242 well intensity/kilometer².

HR= heart rate, mm Hg = millimeters of mercury, N = number

²Adjusted for age, race/ethnicity, BMI, education, income, and employment.

Questions asked on Health/Exposure Questionnaires

Physical Activity

Do you engage in at least 150 minutes of moderate-intensity sports, fitness, or recreational activities that cause a small increase in breathing or heart rate such as brisk walking Do you engage in at least 75 minutes of vigorous-intensity sports, fitness, or recreational activities that cause large increases in breathing or heart rate like running A combination of the above None of the above Prefer not to say In the last 7 days (please check all that apply): Did you engage in at least one vigorous intensity sporting event, such as a running or biking event, which caused a large increase in your breathing or heart rate? Did you engage in at least 150 minutes of moderate-intensity sports, fitness, or recreational activities that caused a small increase in breathing or heart rate such as brisk walking? Do you engage in at least 75 minutes of vigorous-intensity sports, fitness, or recreational activities that caused large increases in breathing or heart rate like running? None of the above Prefer not to say Current Health Have you encountered any unusual stress in the past 7 days or today? During the last 7 days No Yes No Uning the last 7 days Today Yes No Yes No	In a typical week	(please check o	ne):			
that cause large increases in breathing or heart rate like running A combination of the above None of the above Prefer not to say In the last 7 days (please check all that apply): Did you engage in at least one vigorous intensity sporting event, such as a running or biking event, which caused a large increase in your breathing or heart rate? Did you engage in at least 150 minutes of moderate-intensity sports, fitness, or recreational activities that caused a small increase in breathing or heart rate such as brisk walking? Do you engage in at least 75 minutes of vigorous-intensity sports, fitness, or recreational activities that caused large increases in breathing or heart rate like running? None of the above Prefer not to say Current Health Have you encountered any unusual stress in the past 7 days or today? During the last 7 days Today						
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Caused large increases in breathing or heart rate like running? None of the above Prefer not to say Current Health Have you encountered any unusual stress in the past 7 days or today? During the last 7 days Today						
Prefer not to say Current Health Have you encountered any unusual stress in the past 7 days or today? During the last 7 days Today					recreational activities tha	t _
Current Health Have you encountered any unusual stress in the past 7 days or today? During the last 7 days Today	None of the abov	e				
Have you encountered any unusual stress in the past 7 days or today? During the last 7 days Today	Prefer not to say					
During the last 7 days Today	Current Health					
· · · · · · · · · · · · · · · · · · ·	Have you encount	ered any unusual	stress in the pas	st 7 days or today?		
Yes No Yes No	During the	last 7 days	Tod	lay		
	Yes	No	Yes	No		

Have you experienced any of the following health complaints?:

	During the	ast 7 days	Today	
	Yes	No	Yes	No
Cold or flu				
Coughing				
Sore throat				
Hay fever				

Life Events (All Yes or No)

Have you re-located your home in the past 3 months?

Have you changed your marital status in the past 3 months?

Has there been a major change in your family in the past 3 months (birth of a child, child leaving for school, child moving back home, etc.)

Have you changed jobs/careers in the past 3 months?

Have you or has someone close to you become seriously ill in the past 3 months?

Has someone close to you died in the past 3 months?

Exposure ((All Yes or No)

Did you encounter any exposure to gasoline fumes (such as pumping gas) during the last 24 hours?

Were you exposed to any paint or cleaning product fumes during the last 24 hours?

Were you on the site of an oil or gas well or other oil and gas facility in the last 24 hours?

Please provide details for each episode of exposure:

Were you near burning candles/incense at any point during the last 24 hours?

Were you around a fire or a burning fireplace at any point during the last 24 hours?

Did anyone smoke tobacco or marijuana around you in the last 24 hours?

Did you drink caffeinated beverages such as coffee, tea, cola or energy drinks in the last 24 hours?

Did you drink any alcohol within the past 10 hours?

Did you eat or drink (except water) anything within the past 60 minutes?

Medications, Vitamins, and Supplements

Do you take any prescribed medications?

Please list all prescribed medications here.

Do you take any vitamins or supplements?

Please list all vitamins and supplements here.

Have you taken any over the counter or prescribed medications in the last 24 hours?

What medication(s) did you take?